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मानक

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Mazdoor Kisan Shakti Sangathan

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“Step Out From the Old to the New”

IS 5486 (1985): Specification for quick release knife [CED
22: Fire Fighting]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 5486 - 1985

(Reaffirmed 2000)

Indian Standard
SPECIFICATION FOR
QUICK RELEASE KNIFE
(*First Revision*)

UDC 614·847·9 : 672·712



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INDIAN STANDARDS INSTITUTION
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NEW DELHI 110002

Indian Standard

SPECIFICATION FOR QUICK RELEASE KNIFE

(First Revision)

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Indian Standard

SPECIFICATION FOR QUICK RELEASE KNIFE

(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 24 April 1985, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Quick release knife is primarily designed for cutting safety belts/harness of passenger and crew trapped in an aircraft/motor vehicle, etc. This standard was published in 1969. In this revision the cutting edge instead of having an inside curvature is changed to outside curvature edge besides updating its requirements.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the requirements regarding materials, shape and dimensions, construction, and performance requirements of quick-release knife.

2. MATERIALS

2.1 Steel — Steel used for the manufacture of knife blade and handle shall be carbon steel conforming to Class II of IS : 2004-1978†.

2.2 Timber — Timber used for the handle grip shall conform to IS : 620-1985‡.

*Rules for rounding off numerical values (*revised*).

†Specification for carbon steel forgings for general engineering purposes (*second revision*).

‡Specification for general requirements for wooden tool handles (*fourth revision*).

2.3 Rivets — Rivets used for fixing have a diameter of not less than 5 mm and conform to IS : 1929-1981*. Washers used for fixing the rivets shall be made out of the same material as the rivets.

2.4 Leather — Leather used for sheath shall conform to IS : 581-1976†.

2.5 Thread — The thread used for stitching shall conform to IS : 1720-1978‡.

3. SHAPE, DIMENSIONS AND CONSTRUCTION

3.1 The quick-release knife and its handle shall be forged to shape in one piece as shown in Fig. 1. The shape of the sheath shall be as shown in Fig. 2.

3.1.1 The cutting edge shall be well ground and evenly hardened and tempered to a DPN of 500 to 575 when measured within a distance of 3 mm from the edge in accordance with the provision of IS : 1501-1968§, whereas the other outer edge will be thick smooth and rounded up shape.

3.1.2 The press button used on the strap for securing the knife handle to the sheath of such quality that it shall not get undone by itself and shall be rust proof. The stitching shall be even having not less than five stitches to a centimetre.

4. WORKMANSHIP AND FINISH

4.1 The forging shall be free from seams, cracks and surface defects. The edge shall be well shaped as shown in Fig. 1 and finished smooth.

4.2 The metal surfaces shall be finished natural bright lacquered.

4.3 The timber used for handle grips shall be polished and treated with at least two coats of clear varnish.

5. PERFORMANCE TEST

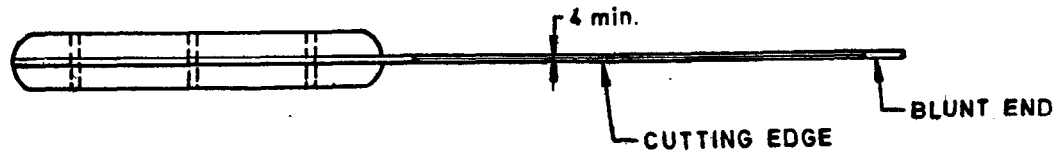
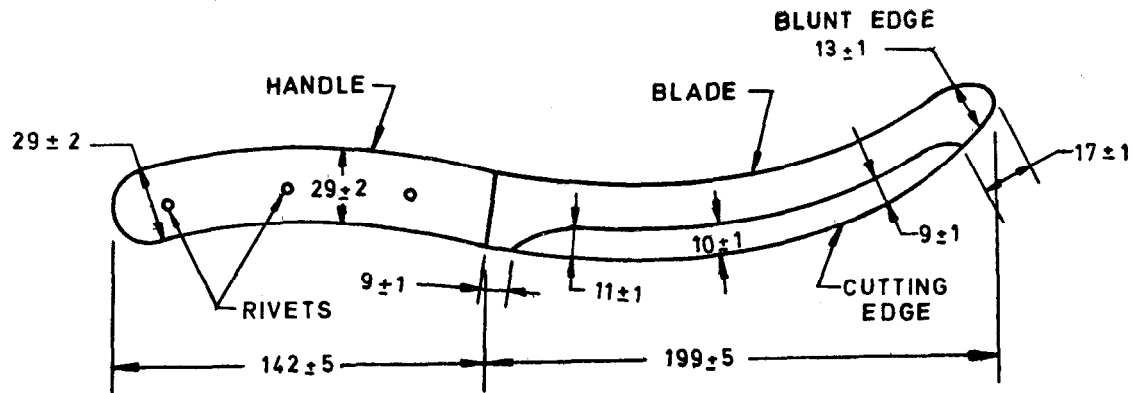
5.1 The knife shall be used to make three complete breadthwise cuts in each of the webbings, not less than 5 mm thick and 75 mm wide, made out of cotton flax and nylon. The cutting shall not require undue strain and effort and the cuttings edge of the knife shall not be blunted or damaged at the end.

*Specification for hot forged steel rivets for hot closing (12 to 36 mm diameter) (*first revision*).

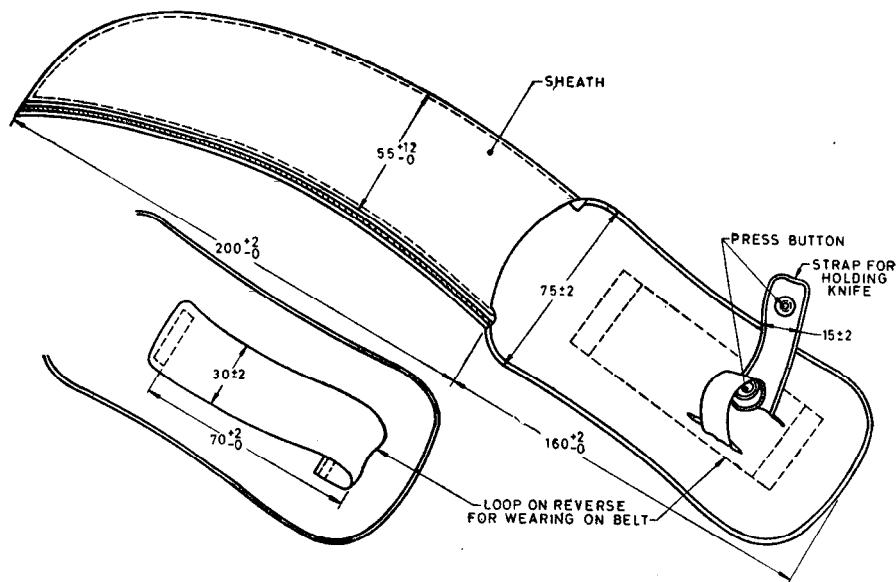
†Specification for vegetable tanned hydraulic leather (*second revision*).

‡Specification for cotton sewing threads (*second revision*).

§Method for Vickers hardness test for steel (*first revision*).



All dimensions in millimetres.
FIG. 1 QUICK RELEASE KNIFE



All dimensions in millimetres.

FIG. 2 SHEATH FOR THE QUICK-RELEASE KNIFE

6. MARKING AND CRITERIA FOR CONFORMITY

6.1 Each quick-release knife and its sheath shall be clearly and permanently marked with the following information:

- a) Manufacturer's name and trade-mark, and
- b) Year of manufacture.

6.1.1 The quick-release knife and sheath may also be marked with ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6.2 Each knife shall be checked for the requirements given in this standard.

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INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²